A paper read by Dr. F. William Sunderman of Philadelphia at a meeting of the American Association of Clinical Pathologists in Chicago (September 27) claimed that he (Sunderman) had found traces of the metallic element nickel in tobacco smoke. He linked this with experimemts in which certain nickel compounds were alleged to have caused cancer in rats. A commentary on the Sunderman report was issued by a TIRC spokesman.

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Role in Lung Cancer Hinted

What This Country Needs Is Getting Noxious Nickel Out of Good Smokes

By Nate Haseltine
Staff Reporter

What this country may need more than a good five cent cigar is research to take the nickel out of tobacco smoke.

Such a suggestion was made last night by Dr. F. William Sunderman, of Philadelphia, to a scientific session of the American Society of Clinical Pathologists in Chicago.

Dr. Sunderman said recent studies have shown that heavy smokers inhale nickel in accumulated amounts that have been shown to cause lung cancer in test rats. He reported studies he and his namesake son conducted to measure the amounts of nickel released in cigarette smoke.

From their results, he estimated that an individual smoking two packs of cigarettes daily would inhale in one year some 5400 micrograms of the metal. Other research, he said, shows that rats develop lung cancer in one year from accumulating doses of nickel totaling 1930 micrograms.

The role of nickel dust, or nickel carbonyl, as a carcinogen (cancer causer) has been recognized for some time now. Its presence in cigarette smoke, however, in sufficient amounts to implicate it with lung cancer had not heretofore been determined.

Trace amounts of nickel have been known to exist in tobacco, as in many other plants. It is a ubiquitous element present in all soils.

As far back as 1937, a high incidence of lung cancer was observed among nickel workers. In 1949, the Ministry of Pensions and National Insurance in Great Britain designated lung cancer in nickel workers as an industrial disease.

Nickel has a great affinity for carbon monoxide, with which it unites to form nickel carbonyl. And carbon monoxide is formed in the burning of tobacco, Dr. Sunderman said.

The Sundermans measured nickel content in the smoke of six different brands of cigarettes, and found some contained twice as much as others. Filter tips, he reported, screened out but little of the suspect ingredient.

"In view of the findings," Dr. Sunderman concluded, "it is our considered opinion that efforts should be made to remove nickel from cigarette smoke. The problem is not insuperable."

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Cancer Link To Tobacco Is Denied

A spokesman for the Tobacco Industry Research Committee yesterday challenged the findings of a Philadelphia pathologist on the existence of cancer-causing nickel in cigarette smoke.

Robert C. Hockett, the committee's associate scientific director, issued the following statement:

"The most authoritative recent studies that we know of show no trace of nickel found in tobacco smoke. It should be made clear that the Sundermans have not, and do not claim to have, induced lung cancer in their rats with tobacco smoke."

He said there is no evidence for conclusions that nickel in tobacco has anything to do with human lung disease.

He was referring to the scientific report earlier this week by Dr. F. William Sunderman, clinical pathologist, and his son. They said they found almost three times as much nickel in cigarette smoke as is needed to induce lung cancer in test rats.

Hockett, a chemist, said he was unfamiliar with the Sundermans' latest research.

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Nickel Seen As Tobacco Cancer Clue

Two Philadelphia research men said Tuesday that a two-pack-a-day cigaret smoker inhales almost three times the amount of nickel that will cause lung cancer in rats.

Nickel gets into tobacco as a result of trace amounts of the metal in the soil.

Dr. F. William Sunderman and his son, Dr. William Jr., told of their studies which enabled them to measure the amount of nickel carbonyl released in cigaret smoke. The elder Sunderman is clinical professor of medicine at Jefferson Medical College and his son is a research associate there.

The role of nickel dust as a cancer-causing agent has been recognized for some time, but its presence in cigaret smoke in sufficient amounts to implicate it as a lung cancer factor had not been heretofore determined.

The doctors presented results of their studies before the American Society of Clinical Pathologists and the College of American Pathologists in convention at the Palmer House.

They said a person smoking two packs a day for a period of a year would inhale an amount of nickel totaling 5,400 micrograms.

It took only 1,930 micrograms of nickel carbonyl over a year's period to cause lung cancer in rats, an animal notably resistant to this form of the disease.

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Source: https://www.industrydocuments.ucsf.edu/docs/hmbm0000